

## CLAIMS

1. A micro-droplet generator, comprising:  
a chamber, enclosed by a casing;  
5 a spraying plate, having a plurality of spraying  
holes, placed on one side of said casing;  
a piezoelectric plate, mounted inside said  
chamber, with a fixed end fastened on said casing and a  
free end performing a bending movement;  
10 a signal connector on one side of said fixed end  
of said piezoelectric plate, issuing signals that cause  
said bending movement of said piezoelectric plate; and  
a storage tank, containing liquid;  
wherein a constant difference of liquid levels  
15 in said chamber and said storage tank is maintained,  
automatically regulating negative pressure in said  
chamber.

2. A micro-droplet generator, comprising:  
a chamber, enclosed by a casing;  
20 a spraying plate, having a plurality of spraying  
holes, placed on one side of said casing;  
a piezoelectric plate, mounted inside said  
chamber, with a fixed end fastened on said casing and a  
free end performing a bending movement; and  
25 a signal connector on one side of said fixed end  
of said piezoelectric plate, issuing signals that cause  
said bending movement of said piezoelectric plate.

3. The micro-droplet generator according to claims  
1 or 2, wherein said piezoelectric plate is made of a  
30 plurality of layers of different piezoelectric materials.

4. The micro-droplet generator according to claims 1 or 2, wherein said spraying holes are placed on a lower side of said casing.

5 5. The micro-droplet generator according to claims 1 or 2, wherein an exchange of liquid and air through said spraying holes takes place, automatically regulating negative pressure in said chamber.

10 6. The micro-droplet generator according to claims 1 or 2, wherein said spraying holes are gradually narrowing holes and gradually widening holes.

7. The micro-droplet generator according to claims 1 or 2, wherein said spraying holes are gradually narrowing holes, increasing spraying force.

15 8. The micro-droplet generator according to claims 1 or 2, wherein said spraying holes are gradually widening holes, allowing external air easily to enter said chamber, balancing pressure in said chamber.

20 9. The micro-droplet generator according to claims 1 or 2, wherein said piezoelectric plate and said spraying plate are placed at a mutual distance, allowing said piezoelectric plate freely to perform said bending movement.

25 10. The micro-droplet generator according to claims 1 or 2, wherein, when said free end of said piezoelectric plate bends towards said spraying plate, liquid undergoes pressure and squeezed out through said spraying holes.

30 11. The micro-droplet generator according to claims 1 or 2, wherein, when said free end of said piezoelectric plate bends away from said spraying plate, air is sucked into said chamber through said spraying holes, balancing

negative pressure in said chamber.